benefit of adjuvant chemotherapy with L-phenylalanine mustard in premenopausal women in whom there is axillary node involvement. The disease-free interval in women with breast cancer receiving such therapy has been lengthened. Although studies are still in progress, consideration should be given to such adjuvant therapy in appropriate instances.

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Recent Advances in the Treatment of Skeletal and Soft Tissue Sarcomas

DESPITE MORE radical surgical treatment of patients with malignant skeletal and soft tissue sarcomas, the overall survival rates have not changed appreciably in the past 40 years. However, there have been some recent developments in the treatment of these patients that deserve emphasis.

In the local control of these tumors, there have been several very important advances made. The first is the use of wide local excision, or muscle group resection, followed by high dose radiotherapy to the tumor bed. The original work of Suit and co-workers has indicated that this significantly reduces the local recurrence rate and, in fact, in some cases allows limb salvage. The basic premise is that there is increased radiosensitivity of subclinical microscopic disease, compared with the relative radioresistance of gross residual tumor.

The second advance in the local control of sarcomas is the use of intraarterial chemotherapy with doxorubicin hydrochloride (Adriamycin®), followed by wide local excision. In several instances this has allowed more conservative operative procedures and limb salvage when the only alternative procedure would be major amputation.

However, the crucial problem in the treatment of skeletal and soft tissue sarcomas is the control of distant subclinical metastatic disease. Despite the improving local control rates, the fact remains that approximately 60 to 80 percent of these patients have died of disseminated disease shortly after surgical procedures are carried out. It is therefore evident that in such patients systemic micrometastasis must be present at the time of operation. This situation has been changed by the development of two important chemotherapeutic agents. One is the antitumor, antibiotic agent doxorubicin hydrochloride, which has been shown to be effective when used alone or in combination with other drugs in the treatment of both skeletal and soft tissue sarcomas. The second is methotrexate (administered in gram amounts and followed by rescue with citrovorum—an agent that also has been highly effective against these tumors). These agents have been shown to have at least a 50 percent effectiveness in established disease. When these drugs are used before metastasis is evident, or as an adjuvant following definitive surgical procedures, the survival rates of patients have improved greatly from less than 20 percent two-year survival to greater than 60 percent two-year survival.

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Primary Closure of Civilian Colonic Injuries

THERE HAS BEEN some controversy about how best to manage traumatic injuries to the colon. Various approaches to treatment exist, ranging from colostomy to primary repair with or without exteriorization. Recently, several authors have advocated primary closure with exteriorization for colonic injuries existing for more than six hours and primary repair for isolated colonic injuries with minimal contamination of the peritoneal cavity for those operated upon within six hours of injury. Morbidity and mortality utilizing this method have been equivalent to, and in some instances better than, other modes of treatment. Primary repair of the colon with or without exteriorization is advantageous because it reduces morbidity and length of time in hospital, and eliminates the necessity of secondary operations for colostomy closure. Garfinkle and co-workers reported a 22 percent morbidity rate associated with colostomy closure.

Criteria for primary closure are right-sided colonic injuries and penetrating left-sided injuries